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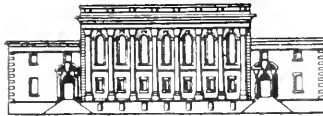
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THE PREHISTORIC PUZZLE
AND
THE KEY TO PALEOLITHIC ART

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Between the Vezere and Dordogne rivers in France, lies an area so rich in prehistoric sites that it has become known as the "Valley of the Caves." Within a twenty-five mile radius of prehistory's capital, the village of Les Eyzies, more than one hundred fifty locations have been discovered. ¹

Millions of years past, rivers like the Dordogne and the Vezere carved channels in the bordering limestone cliffs, creating basins and overhangs. ² When early men first came into the valley some 200,000 years ago, they took up residence in these naturally carved shelters. During centuries of habitation, they penetrated even farther into the rock chambers, where they left an amazing record, referred to by some as "the most significant and impressive development in the entire course of human evolution." ³

Caves such as Le Moustier with strata dating back to the Mousterian culture, reveal many implements of Neanderthal man. But far more impressive is the workmanship of the reindeer hunters who frequented Font-de-Gaume, Les Combarelles, Rouffignac and Lascaux. Tools from the Upper Paleolithic were now decorated with realistic, stylized and geometric designs. Mobiliary pieces of stone, bone, ivory and antler (serving no apparent utilitarian purpose) were engraved and carved in the round. ⁴

¹ John Pfeiffer, The Search for Early Man, (1963), p. 23.

² Ibid., p. 26.

³ Ibid., p. 137.

⁴ Ralph L. Beals and Harry Hoijer, An Introduction to Anthropology, 4th ed. (New York, 1971), p. 171.

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These alone are fascinating examples of the first art, yet there is more. On the walls and ceilings of many caves can be found spectacular animal friezes -- engraved outlines capturing the pure line of a beast; bas-reliefs blending animals with the natural cave architecture; polychrome frescoes giving such creatures an importance in the unified whole.

One can admire these magnificent cave paintings for their artistic value alone, yet there is an urge to know more. The viewer cannot resist attempting to unravel the puzzle of a culture that lasted four times longer than recorded history,¹ and to learn more of the hunter-artists of prehistory's "Golden Age."²

Indeed, for me, it proved to be not unlike a mystery thriller with obvious clues overlooked through the years, or misinterpreted clues which led others on "red herring trails," a marvelous, yet simple discovery, further enlightenment with moments of complete bafflement -- then, piece by piece, the puzzle fitting neatly together.

This initial paper deals with the process leading up to that "marvelous discovery," the key to Paleolithic art, as found in the shaft painting at Lascaux.

¹Ronald Schiller, "Europe's Cave Paintings," Travel, (March 1971), p. 60.

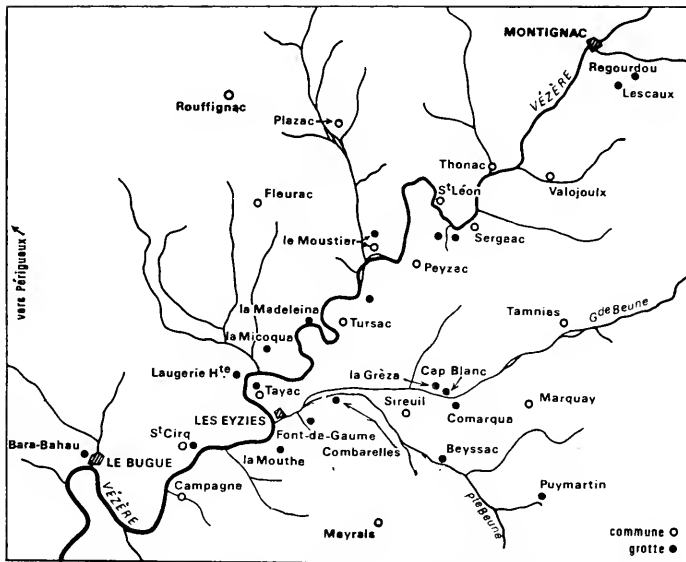
²Pfeiffer, p. 137.



"Valley of the Caves"

Prehistory's capital





Quelques-unes des principales stations préhistoriques de Dordogne (vallée de la Vézère)

Some of the major prehistoric sites in Dordogne



". . . rivers like
the Dordogne and the
Vezere carved channels
in the bordering lime-
stone cliffs creating
basins and overhangs."





". . . early men took up residence in these
naturally carved shelters."



". . . they penetrated
even farther into the
rock chambers, where
they left an amazing
record"



To gain knowledge of this Paleolithic wall art, a survey was made of the opinions of the "authorities." A wide range of differences exists.

Reinach, an early ethnographer, writing shortly after the discovery of the caves, saw ancient depictions of animals as evidence of belief in hunting and fertility magic.¹ Famous prehistorian Henri Breuil agreed that the art was involved in rites, especially due to the presence of paintings of "sorcerers" he had found.²

More recently, another Frenchman Andre Leroi-Gourhan, employing new computer methodology, has posited a theory of sex symbolism. Enigmatic signs, hesitantly identified as traps, houses, etc. by early interpreters, have been unquestionably classified by him as male and female symbols -- patent evidence, he says, of a desire to show the "duality of nature."³

Certain conflicts indicated the fallibility of the arguments of the "experts." In one breath writers like Reinach and Breuil were admitting an almost complete ignorance of Paleolithic man's way of life, and in the next were declaring that religious rites had definitely been practiced. A more thoughtful estimate was made by P.M. Grand who said regarding this magic interpretation: "In the fear of having too lowly an explanation (these men) jump to conclusions about a religion of which there are no traces."⁴

A survey of the known caves revealed also that "sorcerer" figures were too infrequent to demonstrate that the art was tied to the existence of rites; images of hunters

¹Peter J. Ucko and Andree Rosenfeld, Paleolithic Cave Art, (1967), p. 122.

²Ibid., p. 130.

³P.M. Grand, Prehistoric Art, (Connecticut, 1967), p. 30.

⁴Ibid., p. 26.

were conspicuously lacking among the animals; and signs such as "arrows and spears" could perhaps have another meaning. Leroi-Gourhan's sex theory seemed even more absurd, as well as an imposition of one man's assumptions upon individuals separated from him by many thousands of years.

A totally new theory, introduced by Alexander Marshack in The Roots of Civilization, appeared a much more plausible approach to the prehistoric puzzle. "Nobody in the field," says the author, "has ever talked about the cognitive element of the material. I am talking about the cognitive process behind the whole body (of art, symbol and notation.)" ¹ Marshack believes that a sense of time controls man's cognitive processes -- that is, his activities are "time-factored." Neanderthal and Cro-Magnon man had approximately the same brain capacity as modern man, therefore, their cognitive processes were probably the same. ²

Marshack's exhaustive microscopic inspection of some thirty pieces of bone and pebble from the Upper Paleolithic furnishes evidence to support his hypothesis. What appear to be decorative line markings on the pieces, actually indicate notations of time -- probably lunar -- by their execution, grouping and position. Here is revolutionary proof that systems of notation were in use 25,000 years before the invention of cuneiform, and that measurement of time was of importance to humans long before agriculture was possible. ³

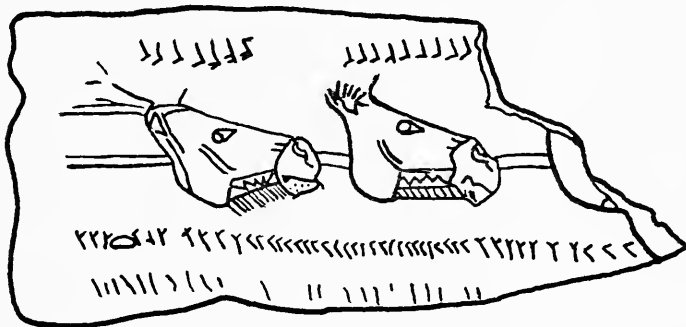
With this lunar theory in mind, Marshack re-examines mobiliary pieces of Ice Age art, discovering that these

¹Robert J. Trotter, "Tracing the Roots of Civilization," Science News, CI no. 8, (February 19, 1972), p. 126.

²Ibid., p. 124.

³Ibid., p. 124.

also involve time-factored images. He feels that groupings of animals and plants could represent seasonal compositions. Of special interest is a piece from Mas d'Azil (Ariege) which suggests that an animal (i.e. a horse), when in a series, could equate some time period, such as a year.¹



Horse heads in single file as though they were intended to "follow each other" in linear sequence.

Above and below lunar notation in the "vertical foot tradition." (Marshack, p. 166.)

Marshack's argument is well documented with examples of mobiliary art, but can the time-factoring theory apply to parietal art as well? Marshack believes that it can. He emphasizes the differences between notations on the portable artifacts and those found deep in the caves. It does not seem to him that notations in the two locations would necessarily serve the same purpose or have equal meanings. Yet a culture that evolved a complex notation could have used symbols and images of a different sort, still referring to similar time-factored stories.²

¹Alexander Marshack, The Roots of Civilization, (New York, 1972), pp. 210 - 211.

²Ibid., p. 197.

In approaching time-factoring as applied to wall art, a number of questions came to mind:

First, when and how were the caves used for shelter? Were the painted caves ever inhabited? On this matter there are many conflicting views. In his rather confusing discussion of the problem, Breuil explains that some caves were apparently inhabited from November through the spring, as evidenced by the presence of some deer antlers on the sites.¹ Leroi-Gourhan adds that there is a complete absence of antlers, bones and tools in the painted caves, therefore indicating that they were regarded purely as tabooed "sanctuaries" for rites and initiations.²

Two analysts of Paleolithic art, Ucko and Rosenfeld, find these views inconclusive. It is definitely established, they remind the interpreter, that men took up residence in the entrance of the decorated caves, or camped in open sites just in front of the grottoes. It is even possible to imagine more activity occurring within the caves than is admitted by proponents of the magic theory. The artists could have penetrated deep in some passages leading off from the inhabited chambers.³

The adaptation of a hunter's life to the seasonal migrations of animals was another question to be pondered. Early background reading suggested that the reindeer hunter lived as a nomad at temporary camp sites from July to November, following herds on their trek through the Valley of the Caves as far as the Atlantic and Mediterranean coasts.⁴ With his heavy supply of meat, and bone and

¹ Henri Breuil and Raymond Lantier, Men of the Old Stone Age, (New York, 1965), p. 84.

² Andre Leroi-Gourhan, The Art of Prehistoric Man in Western Europe, (London, 1968), p. 158.

³ Ucko and Rosenfeld, pp. 224-226.

⁴ Breuil, p. 84.

antler for tools, the hunter made his way back to the caves which served as his winter residence. However, later research revealed that reindeer had probably been present almost all year round and had not made lengthy migrations as was long believed.¹ Certainly whether they traveled or remained relatively sedentary, early men could not help but be aware of the seasonal habits and the life cycles of the animals they hunted.

A major force in the Upper Paleolithic was the effect of glacial cycles on the life of the "cave dweller." While Magdalenian man flourished in an age of plenty, the Azilians of the post-glacial period existed in a state of deprivation and retrogression. In other words, the ideal hunting conditions, constant throughout the Ice Age, allowed the hunter culture to flower and endure intact for centuries. The climatic change to warm weather which drove the herds up north and caused the appearance of great forests, disrupted an amazingly smooth flow of culture.²

Answers to the previous questions, while not always conclusive, at least gave a clearer picture of life in the Upper Paleolithic. They showed human beings whose movements, changes of habitat and social activities were synchronous with the periodicity of their environment and who were necessarily aware of time for survival.

However, these concepts still gave no clue to the exact purpose of the wall paintings and symbols. It now seemed more logical to view as many pictures of the prominent caves as possible, in the hope that the pictured "evidence" itself could help to solve the enigma. It was not until much later in my sleuthing that I had an opportunity to be on the spot at Lascaux and other caves to

¹Information gathered personally at Le Thot, Thonac, France.

²Pfeiffer, p. 138 and pp. 141-143.

view the actual paintings themselves.

Even the initial endeavor did not proceed without many complications. The limited source of material in local libraries, and even in the Congressional Library, made research extremely difficult. From this meager supply, most books on prehistoric art pictured only bits and pieces of wall friezes or parts of the ceilings. It proved a puzzle even to determine the exact location within a cave of an animal figure or group pictured.

The varying quality of color reproductions also meant important details were not always apparent or clear.

Comparisons of photographs and drawings showed that the noted Breuil could not be relied on for complete accuracy as to detail. Often lines or marks he sketched might be misinterpreted, especially by Leroi-Gourhan who called everything a sex symbol.

The angle at which some photographs were taken often distorted the perspective of certain animals, made the scale of a frieze unclear, and gave the impression that figures were on the wall instead of the ceiling, and vice versa.

Corrections could only be made upon discovering an isolated picture of an animal in good perspective, or by pouring over maps giving animal numbers, and thus fitting as many jigsaw figures as possible into the puzzle.

In working with the photographs a number of vital characteristics were noted. Most significant perhaps was the Paleolithic artist's manner of depicting the animals in the friezes, especially at Lascaux. As Grand expressed it: "Fear is hardly present here, rather a kind of admiration. . . obsession with animal representations is on a plane far beyond the idea of meat. . . nothing indicates they represented divinities."¹

¹Grand, p. 24.

So-called ritualistic hunting signs such as "spears or arrows," taken by Breuil as proof of the practice of sympathetic magic, are relatively infrequent, and are found in only one section at Lascaux.

While "sorcerer" figures are said to be pictured at Trois Freres, their presence seems to be the exception rather than the rule. They are rare in cave art and are not found at Lascaux.

Mention is often made of the lack of human figures, however there is supposedly one in the shaft at Lascaux.

Because of the continued reference to Lascaux regarding each of the special characteristics discussed, and the availability of a greater number of books describing the paintings there, Lascaux appeared to be a good starting point for further analysis. The best approach seemed to be to erase the mind of all old interpretations and preconceptions about Paleolithic man, and to think in terms of what he saw around him and what he would have noted. (As Grand points out, this was the first art of humanity and one must resist the temptation to make comparisons with the art of later cultures. ¹) There was certainly not a great abyss separating man from the animals; his bonds with them were not yet broken by civilization. As a hunter, he still retained superior faculties of rapid action, keen smell and hearing, highly trained sight, and a retentive memory. ² Possessing these abilities, he would have had a detailed and precise knowledge of all surrounding natural phenomena, since it was with these forces that he must be in harmony.

¹Grand, p. 8.

²Breuil, p. 178.

The Shaft Scene



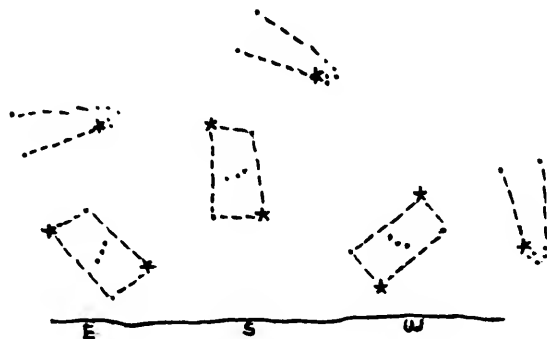
Within this frame of reference, the famous shaft painting was studied first. (See ILLUSTRATION facing.) It is not the most appealing esthetically, yet it proved to be the crucial piece. The painted "composition" depicts a supposedly dying bison, entrails extruding; a rudimentary "human" form with a rectangular body and stick arms outstretched, seemingly lying in front of the bison; below, a bird on a stick; and to the left, a partial outline of a rhinoceros with six dots under its tail.

The scene becomes suddenly familiar if one is struck by the possibility that the recumbent rectangular figure and the charging bison could be representative of the constellations of Orion and Taurus the Bull. Certainly such a prominent feature in the star-filled sky would have been noticed in the simple world of Paleolithic man.

Could the night sky provide the key to the cave art at Lascaux?

FORMULATION OF A NEW THEORY

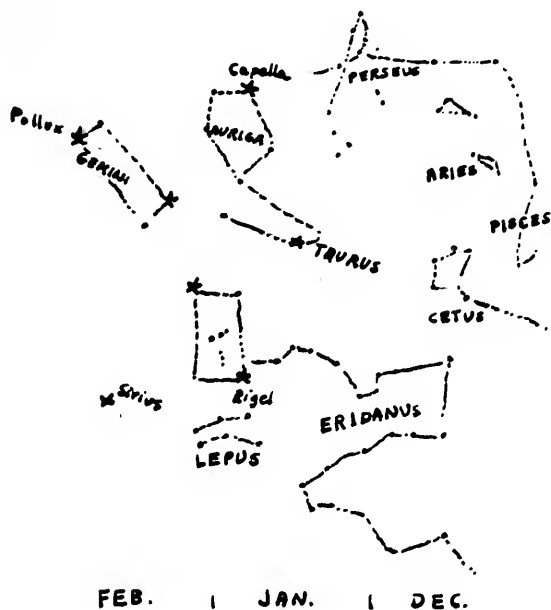
Robert H. Baker's book, Introducing the Constellations was consulted for information on the stars and constellations. An interesting diagram illustrated Orion and Taurus in various seasons. A rectangle is used for the "human" form, and the angle of the horns of the bull in winter are almost identical with those of the painted bison. However, further analysis of star maps revealed that the original assumption of Orion as the man's image was incorrect.



Orion and Taurus at different seasons

From page 159, Introducing the Constellations by Baker
(New York, 1957).

Of note in Baker, in the diagram showing the constellations of winter, is Lepus, a star figure consisting of six stars, just the number and arrangement repeated under the tail of the rhino in the shaft painting. To the left of Taurus is a rectangular rendition of Gemini.



Constellations of Winter

From page 149, Introducing the Constellations by Baker
(New York, 1957).

The disgorged "entrails" of the bison (This is the only time a bison is depicted this way), the bird on a stick, and the rhinosceros were not apparent as yet.

Star Maps with Overlays
Showing
Star Figures in
the Shaft Painting

There was a need to know much more about the star configurations. The only available source for continued daily scrutiny (with month by month illustrations of the sky) was a purchased copy of the Peterson Field Guide to the Stars and Planets by Donald H. Menzel. At first there appeared nothing recognizable except the V of Taurus' horns, a good reference point since it was noted in Baker that this V was even more prominent 50,000 years ago. *

After more pouring over the star maps, especially Map 22 for November, Map 24 for December and Map 2 for January, the shaft picture came together item by item. First: the obvious position of the head of the bison in the oft-noted "twisted perspective;" then the elongated body, below which appeared stars conforming to the "disgorged entrails." (See STAR MAPS with OVERLAYS - p. 14.)

Beneath the bison was the almost exact form of the bird on a stick. It was this string of stars delineating the "stick" which proved invaluable in deciphering other mysterious symbols later. At this particular juncture, however, its discovery made it apparent that the so-called "spear" across the body of the bison was actually two separate lines of stars, the one below the bison possessing a short offshoot. Both can be found in the diagram for November, star Map 22.

Recalling the rectangle noted earlier in Baker's map of winter constellations, attention was now turned to Gemini. There in both December Map 24 and January Map 2, appeared the "prone man." The star Pollux plus an adjoining star comprises the head of the "man" with prominent proboscis. Below it stretches the rectangular body and extended arms. The curved feet can be traced in the bow to the right of Orion.

* According to Baker, the Hyades cluster passed nearest to us at half the present distance a million years ago. This would indicate a somewhat closer proximity during the Paleolithic age. (Baker, p. 147.)

It was thus discovered (as will be made abundantly clear later) that, unlike the Greeks, for example, who took a group of stars and built around them some god or legendary creature, the images represented in the Lascaux paintings were precisely what was seen by joining stars in the night sky. The stick figure in its crude form was akin to the many lines, dots, rectangles and other "symbols" used in conjunction with the otherwise skillfully rendered animals. Dots in a particular number or pattern on the wall indicated stars in that particular alignment in the sky. Geometric forms were created by drawing lines between stars for notational purposes. These so-called symbols were instructional aids in identifying a particular star figure (such as the bison), by demonstrating what other abstract star forms were in its vicinity at a particular time. The six dots under the tail of the rhinosceros, as mentioned earlier, follow the pattern of Lepus in the map, and serve the same guidepost function. (See also ILLUSTRATION of deer - p. 17.)

Because I looked for the partial rhino in the star maps containing the other figures, I was unable to discover it at that time. However, its very existence in the painting in an incomplete form was important later in identifying other partial figures. *

It cannot be determined exactly when in the winter season, and over what length of time, recordings were made prior to painting the various elements within the shaft painting. Encompassed in this difficulty is the fact that the star maps available to me cover only a few isolated time periods within a given month. The figure of the bison is visible in November, December and January Maps. Correct alignment of the identifying portions

* Much later in the investigation of mobiliary art the rhino's position was discovered, but this will be discussed in a second paper.

shift after November, however, and by January are floating off. In the star maps, Gemini does not appear to come into view until December; the bird is not upright until December; the position of Lepus seems best in January when the bison figure is disintegrating. Because of the above elements, it is not possible therefore to positively identify the stick at the foot of the prone figure at this time. It is obviously an alignment of stars. The whole grouping is what is seen in the winter sky.



Deer with Guidepost Notations:
Geometric Form and String of Stars

THE STAR THEORY TESTED AGAINST OTHER INTERPRETATIONS

The main reason little progress was made through the years in interpretation of this Paleolithic wall art, was the continual adherence to the opinions of the various "authorities" who advanced theories of fertility and hunting rites or of sex symbolism. Once one has accepted the star theory, one readily sees the numerous fallacies perpetuated during the past century.

Positioning of the Painted and Engraved Figures

One early interpretation of prehistoric cave painting was that of Art for Art's sake. Ethnographers asked themselves, "Why else would such an 'advanced activity' be practiced by these 'primitive people'?" French cave explorers Lartet and Christy (1864) saw the works as pure ornamentation, representative of a wish for decorative and joyous surroundings.¹ Piette also felt that prehistoric individuals -- as all men -- were "eternally concerned with the cult of beauty."²

¹Ucko and Rosenfeld, pp. 117-118.

²Ibid., p. 119.

It is obvious that parietal engravings and paintings were intended to have a visual impact. The combination of techniques employed in one representation and the use of natural bulges and protruberances of rock walls and ceilings, reveal a concern with the execution.

Yet, the pure Art for Art idea was rejected rather early. Succeeding observers found it impossible to reconcile such artistry with the "bizarre" positioning of some animal figures on the ceilings and walls. One author wondered why the artists at Bedeilhac "crawled a long distance and into a corner to paint an incomplete outline of a horse."¹ For him, it was difficult to imagine the significance of a secluded "art gallery" in a cave which followed no codes of "hanging" and left suitable space unused.

Another remarked that only a "crazed artist" would put a bison in the accessible spot where it was discovered. In an otherwise empty chamber, someone had "suddenly decided to place a bison on the ceiling as if to test the credulity of modern survivors. . . He represented a bison upside-down!"²

Bataille, a more recent visitor to the cave of Lascaux, notes the "paradoxical location" of animals in the Axial Gallery. Here, there is action in every direction, with red cows sprawled even overhead. This, he feels, is a strange effect achieved nowhere else but on a cave ceiling.³

But, despite their criticism of the Art for Art theory, these "authorities" are able to give no satisfactory personal explanations of what they find to be ludicrous

¹Ucko and Rosenfeld, p. 234.

²Ibid., p. 234.

³Georges Bataille, Lascaux or the Birth of Art, (Switzerland, 1955), p. 57.

The Parade of Animal Figures



Chevaux chinois



positioning of the figures. However, this particular placement must have had some definite purpose -- for as Ucko and Rosenfeld state, we can interpret parietal art much better than mobiliary art since it is found in the position intended by the artists.¹

The star theory is the only one which illuminates this purpose. No animal is referred to a ground line. Yet each is a graphic entity, never giving the impression of existing in a vacuum.² The figures blend into the architecture of the cave, lining the sides of passages and curving upward over the ceiling, just as star figures curve in the dome of the night sky. As in some ancient planetarium, the dark chambers record the spreading constellations of animals which eternally "live and float" about the observer.³ * Baker's words: ". . . in addition to their daily rising and setting, the constellations march slowly across the evening sky in a grand parade with the changing seasons," strengthen the assumption that the animals pictured were observed star figures. Although many are shown at a gallop, parading is just what the animals appear to be doing in the friezes at Lascaux.⁴

¹Ucko and Rosenfeld, p. 165.

²Grand, p. 36.

³Bataille, p. 85.

* In fact, it is astonishing to note the number of authors who unsuspectingly use the terms "sky" and "constellations" in their descriptions of caves. Nougier says of the remarkable Rouffignac ceiling: "It is composed of -- the French verb is se consteller de -- an admirable bestiary of fifty figures." (Translated from Nougier, La Prehistoire, (1963), p. 123.) Later he refers to figures escaping from the depths to group like a sky constelle de mammoths, horses and bison. (Translated from Nougier, p. 126.) It is Georges Bataille's quote about Lascaux which I use above in the literal sense.

⁴Baker, p. 4.

Each chamber or wall of a given cave records the figures sighted during one period of viewing the night sky -- say a month, or a season. Some figures might be isolated because they were addendum to the completed calendar in an adjacent panel or gallery, or because they were to become part of a new panel which was never completed. Finding animals upside-down should be no surprise since constellations appear to tumble and turn as they rotate about the pole star in the sky. Finally, it can be seen that superior rendering of the beasts -- while not an end in itself -- made more enjoyable the viewing in the "planetarium."

Size and Variations

When one visits Lascaux and the other prehistoric caves, one is struck not only with the beauty, but also with the enormous size of some of the animals depicted. (For example, the bulls at Lascaux measure up to eighteen feet in length.) If one recognizes the relevance of these figures, the unusual size is an obvious clue. The size relates to the space they occupied in the night sky.

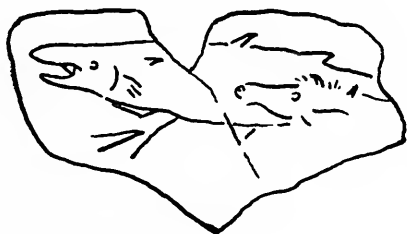
For other investigators, however, size proved a hindrance in formulating their theories. It caused large figures to be examined singly, or if viewed in an obvious composition, they were placed in the wrong context. The most wide-spread belief conceived prehistoric men as animal worshippers who intended their huge paintings to be representations of gods in a cave temple.

But for this viewer, as for Grand, nothing suggests that the animals represent divinities. There are no monsters, no symbols of power. The totality of the paintings reveal not fear -- but more an admiration for nature's creatures.

Neither are variations in size due to some stylistic convention. The dimensions of the animals correspond to a proportionate space occupied in the sky. Therefore, the

huge size of the animals indicates the reach of the constellations as they stretched across the heavens. Conversely, the small configurations are represented by smaller animals. Size is also dependent upon the point and time of viewing a particular group of stars. Thus in January (Map 2 in Menzel ¹) the star figure of the shaft bison appears larger than the same figure in the month of December (Map 24).

Such an unrealistic combination of animals as that in the sketch below, is easily explained by the star theory. In reality the size of a fish would not overpower that of a horse. In the sky, the span of stars composing the fish configuration is greater than that of the horse configuration. Artists faithfully recording the constellations would naturally maintain the relative proportions of each.



Line rendition of a stone from Trois Freres
(After Bouyssonie)

Marshack, p. 244, fig. 124.

Typical of unrealistic proportions
to be found in caves also.

¹Donald H. Menzel, Field Guide to the Stars and Planets,
Peterson Field Guide Series, (Boston, 1964).

Outline, Incomplete Outline, Twisted Perspective

While some friezes at Lascaux and elsewhere are gloriously embellished to create form by the use of paint and even the texture and shape of the wall surface itself, there are many done only in outline form (by engraving, a painted line enclosing the animal, or a combination of the two) so that the animals "remain more flat and schematic." ¹ This technique accentuates the fact that all were done as precisely as possible to repeat the shapes seen among the stars.

When outlines are incomplete, it was not because of some oversight or negligence on the part of the artist, but rather because of the star arrangement as viewed at a particular time. Due to the lack of stars within a certain area of the heavens, some configurations are seen as incomplete animals. (Note rhino in shaft painting - p. 10)

Of course the fact that the overwhelming majority are shown in profile indicates that constellations were more easily recognized from a side view. But what of the so-called "twisted perspective" -- a technique by which animals are represented from several angles at once so that a head or leg appears distorted? Several authorities have put forward theories to explain it.

Breuil used analysis of "different styles" of representation as a personal means of dating the paintings. According to his judgment, the pure side view did not become prevalent until later periods of prehistoric art. Thus, animals rendered in "twisted perspective" date from an earlier period. However, conflicting viewpoints arising from later analysis indicate that the Abbé's methods are unsure; his whole process is very subjective. *

*For example, the guide at Lascaux firmly believes that the works are contemporaneous -- created by several generations of artists who then, for some unknown reason, abandoned the cave which remained so until its recent discovery in 1940.

¹Grand, p. 8.

Spivak attributes even more significance to the twisted perspective characteristic. He found the "answer" to the puzzle of Lascaux in India. On a trip to that country, he was struck by statues of the god Siva performing a dance of celestial joy. The impossible double twist of the god's upraised leg reminded him of the turned legs and heads of beasts in cave art. He sees in this perspective, signs of divinity; the animals are "gods" of a cave "sanctuary."¹

Spivak's "new" ideas of cosmic rites are unfounded, supported by no evidence. (Further comment will be made shortly in the section on signs in the art.) Moreover, the basis of his whole theory -- that is, the descent of ideas from prehistoric France to India -- seems most unlikely. In my estimation, he has made comparisons of doubtful validity.

In his volume on prehistoric art, Powell hastens to inform us that twisted perspective is not a consistent element, and certainly not in the Franco-Cantabrian cave art.² Surely in the instances when it did occur, there was some purpose behind it. This means of representation does not indicate a lesser ability on the part of the artist, because the overall quality of the work is excellent. The two means of representation -- the pure side view and the occasional twisted perspective -- are contemporaneous.

The "distortion" is explicable in other terms. Briefly, it shows the way a particular star figure was viewed and still can be seen. Some constellations did not form perfect profiles of animals in the sky, and therefore were recorded exactly as they were seen. (An excellent example is the twisted head of the bison in the shaft painting.)

¹Morris R. Spivak, Cosmic Dance at Lascaux, (Hand-typed manuscript filed in the Library of Congress, 1961.)

²T.G. Powell, Prehistoric Art, p. 36.

Preciseness

Still other fallacious theories have arisen from misinterpreting the appearance of specific animal figures. The precision with which each was rendered is not taken fully into account. A case in point is the hypothesis of Leroi-Gourhan. In an attempt to bring order to the totality of cave art, he posits a theory of the duality of nature. He claims that each animal depicted by the artists necessarily represented either the male or the female image. When placed in pairs or in groups, these figures symbolized the complementary principle in nature.

Despite the assured manner in which he states his assumptions, Leroi-Gourhan makes this startling admission (although he does not consider it as such):

"It is almost astonishing to see how few animals can be identified with certainty as male or female . . . we are surprised . . . by how little concerned (Paleolithic man) was to provide his animals with proper organs for guiding prehistorians to decide their sex." ¹

Several comments should be made immediately. It should be obvious to this prehistorian that if sex was not clearly indicated, it was not the artists' most vital concern.

And to suppose that the paintings were executed with prehistorians in mind is ridiculous. Individuals of the Paleolithic culture were not planning on someone else finding and interpreting their art twenty-five centuries later. They themselves understood what was meant by the notations and that was the only matter of importance.

Undiscouraged by the lack of primary sex indicators, Leroi-Gourhan consoles himself with secondary sex

¹Leroi-Gourhan, p. 120.

characteristics. Horns and antlers aid him in projecting sex. When these are missing, he guesses the sex using a confusing set of criteria. In the end, sex for him becomes abstractly associated with a species, and not with specific individual animals. All bison are "female," all horses "male." Even at this point he fails to note the contradictions in his theory. For example, the horse "symbolic of the male," is supposedly pregnant in several representations! I believe that Leroi-Gourhan allowed his obsession with proving his sex theory to cloud his logic.

Again, in returning to the star theory, certain pictured details or their absence can be explained. There was a lack of sex differentiation because "providing the proper organs" would not help in delineating the star figures Stone Age individuals imagined in the heavens. The addition of horns and antlers could depend upon what a particular artist perceived. One might omit auxiliary stars that another selected to form those features. When Leroi-Gourhan speaks of oversights, he is in error. There is great precision in indicating important details. It is such details as the tilt of a head, the curve of a mane, and especially (as indicated earlier) the direction the animal faces -- left, right, upside-down -- which are important to discovery.

Superimposition

The superimposition of some figures over others is another characteristic of cave art for which no plausible explanation has been proposed.

Just as the "bizarre" placement of animal figures ruled out the Art for Art theory, so did superimpositioning. Why would an artist wish to cover paintings and engravings he had so painstakingly created with others? If overlapping was caused by some later artist who had little respect for earlier work, why did he not make his sketches in the adjacent empty wall space or in another gallery?

Leroi-Gourhan regards all animals within a given panel as roughly contemporaneous products. For him, superimposition indicates voluntary association of animals in compositions.¹ (A composition is formed by the association of complementary "male" and "female" images. Bison, oxen and mammoths are "female;" horses, stags and ibexes are "male."² The bison-horse grouping is apparently the supreme female-male combination.³) Availing himself of a computer, Leroi gathers statistics on the superimposition and groupings of animals in many caves.

Unfortunately the analysis cannot proceed as mathematically as one might suppose from his lengthy documentation. His coefficients of correlation are confusing; different values are assigned to the same animals at different caves;⁴ quite often boundaries of compositions are determined rather arbitrarily, irregardless of superimpositioning. Finally, it would seem as if all this prehistorian's work was for naught. Several hundred pages of data on the numbers and location of animals do nothing to clarify the function of the art. As Bock states:

"... findings may be spurious due to an unintentionally biased sample. Statistical analysis says only how improbable a certain outcome is -- it can never certify the validity of a finding... the correlation approach, even with the help of research aids... and techniques of statistical inference, cannot guarantee valid findings."⁵

¹Grand, p. 28.

²Leroi-Gourhan, p. 112.

³Ibid., p. 120.

⁴Grand, p. 30.

⁵Philip Bock, Modern Cultural Anthropology, (New York, 1969), p. 363.

Efforts to make a doctrinal presentation of his theory, led Leroi-Gourhan off on "a red herring trail."

While the question of superimposition makes suspect other theories, it helps to substantiate the star theory. In delineating star figures, this technique served several functions. Some artists chose this means of showing figures viewed simultaneously. Superimposition was also used to indicate variations of certain features within the same configuration, or to designate figures observed in the sky at the same time, but from different horizons.

Contents

The contents of Paleolithic art should also provide some strong evidence for its correct interpretation.¹ From the preceding discussion of the caves, it must be evident that quantitatively, the murals depict animals; depictions of "human figures" have only a marginal presence. The noticeable predominance of animal representations led to the fabrication of hunting magic or fertility theories in which caves were regarded as scenes of religious rituals.

But if sympathetic magic was the intent, the selection of animal species portrayed does not reflect the hunters' actual environment. It is strange to find that individuals who primarily hunted reindeer, did not represent them more often. It is even more puzzling that they would place in close proximity animals which are not associated in the natural environment. If it was only considered worthwhile to represent animals that were difficult to hunt, the mammoth should appear more frequently since it was certainly not an "easy catch." Even in the case of portraying dangerous animals the choice would be difficult to explain. Ferocious cave lions and bears were common and widespread yet images of them are rare.

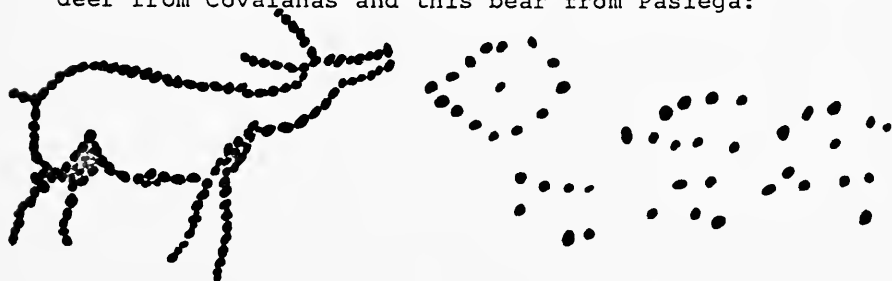
¹Ucko and Rosenfeld, p. 228.

The star theory is the only one which makes clear the "unusual" groupings of animals or the absence of important prey. The choice of animals portrayed was not a reflection of the terrestrial environment, but the celestial one.

Compared to us, Paleolithic man possessed far keener senses, including eyesight. His atmosphere was also clearer, undoubtedly making many more stars discernible. Therefore, just as we today can at least recognize star forms such as the big and little dippers at different points in the night sky during the changing seasons, so early man certainly observed similar groups forming, setting and returning. What then could be more logical than to see in the patterns, familiar shapes of animals, not only about him, but known through a passing down of knowledge?

Of course it is highly unlikely that Stone Age men spotted these animal silhouettes immediately. At first, they detected no more than certain geometric shapes, re-occurring periodically in the night sky. These were undoubtedly recorded on mobiliary pieces as a pattern of dots. * Only later, working on this reduced scale, may the artists have begun to recognize animal outlines by drawing connecting lines between stars noted in an already familiar grouping.

There have been found in caves and on mobiliary pieces, simple dot drawings of animals etc. such as this deer from Covalanas and this bear from Pasiega:

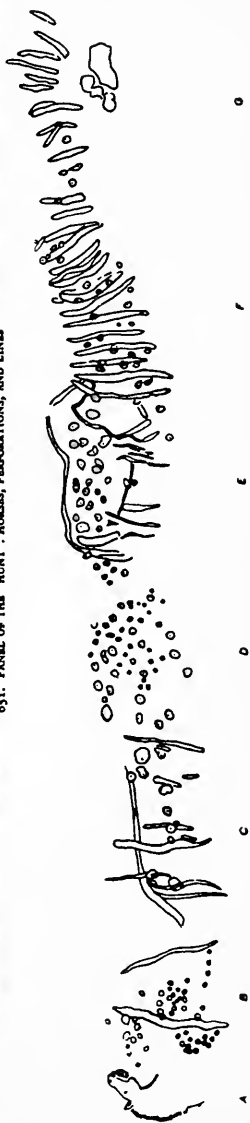


* Evidence linking parietal art and mobiliary art will be forthcoming in a paper to follow.

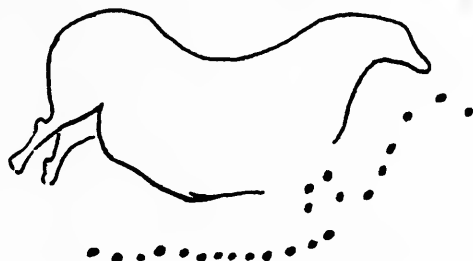
Instruction of the Dot Technique



651. PANEL OF THE "HUNT": HORSES, PERFORATIONS, AND LINE



Illustrative of how the technique of joining the dots with lines to create figures could have been passed on instructively, is the example on the facing page.



Configuration of auxiliary dots below horse -- Axial gallery at Lascaux

In this instance, a curving pattern of dots is used to identify a particular figure.

The preceding discussion describes how Paleolithic hunters came to see animal forms in the star groupings they recorded. But this still does not make clear the absence of man's own image in the painted panels. Why are "humanoid" forms so seldom seen, and when they do crop up, why are they portrayed so poorly?

Proponents of the magic theories have a ready explanation. Men supposedly executed few self-portraits because of strict taboos. Of course we have no proof of the existence of such taboos. I would posit a new explanation. Star formations were more clearly identified as animals and were recorded as such. Geometric or globular patterns referred to as "humanoid," recorded more nebulous configurations in the sky. Any resemblance to human forms was incidental, since the comparatively crude portrayal suggests they were not meant to represent any particular living human beings. But more of this later and in the second paper.

Misinterpretation of Signs

The last matter considered by prehistorians is the presence of enigmatic signs which accompany some of the animal friezes. True to his "duality of nature" theory, Leroi-Gourhan positively identifies the marks as sex signs, but I believe sufficient comment has already been made to refute this hypothesis.

Most authorities accept Breuil's identification of them as arrows, spears and traps, which would give credence to the hunting magic theory. They assume that the signs must indicate capture in the procedures of sympathetic magic. The image of an animal pierced with arrows or imprisoned in a trap would make the idea of capture come true in reality.

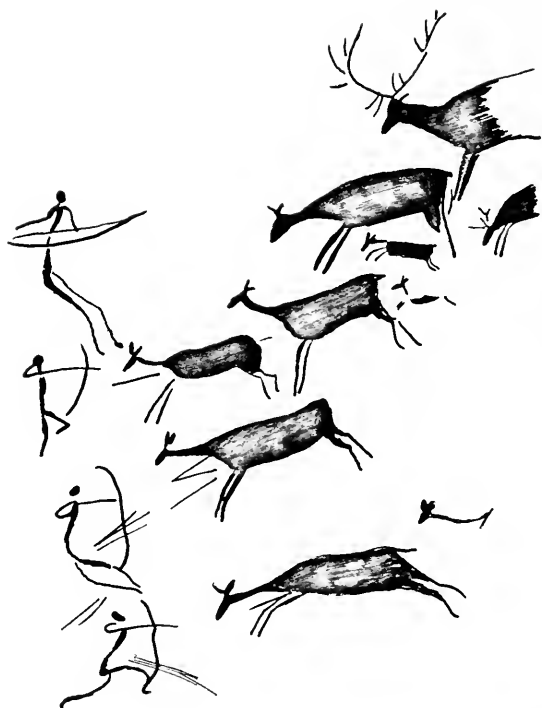
In their eagerness to prove these interpretations, proponents of the hunting magic idea fail to make several vital observations. If one considers the whole body of painting, relatively few animals are accompanied by signs. When they do appear in the vicinity of animals, many so-called arrows definitely miss their target. Less than 10% of all pictured animals are "wounded" -- that is, are superimposed with signs interpreted as weapons.¹

Secondly, it is strange to note that "arrows" often pierce the "intended prey" in the ankle, for example, instead of in some vital part which hunters should recognize quite well. Even more absurd: at Lascaux, a horse is marked, while the few representations of reindeer show no wounds whatsoever. Why should reindeer hunters strike an animal that was not their main prey, while leaving the cervids unmarked?

The trap theory is also dangerous because neither are near-by animals shown with wounds, nor are the "traps" enormous. In fact, it must be pointed out that many

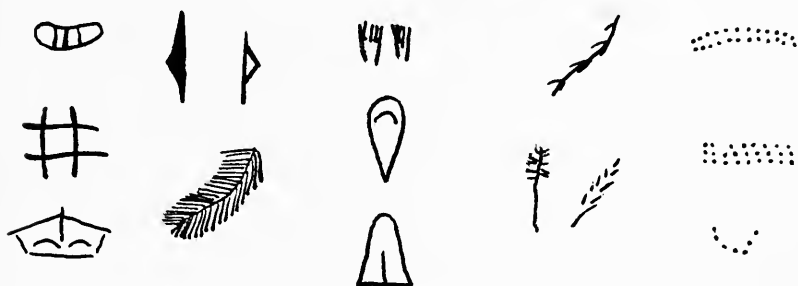
¹Ucko and Rosenfeld, p. 187.

True Hunting Scene



Los Caballos
Valltorta, Castellon
(After Powell, p.67)

different signs are used at different caves; each cave has its own vocabulary of symbols, a good number of which do not even resemble weapons.¹ (See below.)



Finally, if hunting magic was the purpose, why not picture hunters with weapons? I feel too many viewers make hasty comparisons between Upper Paleolithic cave art and later cave art where careful rendering of armed figures indicates that hunting is clearly the subject matter. (See ILLUSTRATION on facing page.) The hunters who painted at Lascaux, Font-de-Gaume and Rouffignac must not have enjoyed a very effective hunt if they relied on their pictured friezes to bring success!

One must recognize that the images are not meant to "be" animals, but to represent² star figures. Those puzzling geometric signs, sprinkled among the paintings were incorporated as signposts for neophytes to aid in identification. As explained earlier, lines were drawn between neighboring stars and this sometimes may have resulted in signs which vaguely resembled arrows or weapons. Signs superimposed upon animals merely indicated another helpful guidepost configuration which happened to overlap the animal outline in the sky.

¹Grand, p. 33.

²Ibid., p. 36.

Art for Art's sake, representation of animal gods, fertility and hunting magic, duality of nature -- these then have been the major interpretations of Paleolithic cave art. Since the decorated caves were first discovered, different theories have held sway. Recently, the explanations given by Breuil (hunting magic) and Leroi-Gourhan (sex theory) are considered by prehistorians to be the most plausible. Yet, as the preceding discussion demonstrates, even these highly regarded theories can be refuted. None of the above-mentioned theories satisfactorily explains evidence in all categories (placement, size, form, preciseness, superimposition, contents, signs.) In fact, they merely pose new problems to be solved. The star theory places the evidence in a new perspective and replies to all unanswered questions.

The presentation of the star theory in the refutations has introduced some facets of its function. The concluding section of the paper will go beyond to examine the meaning behind the recording of the star figures. It will broach the subjects of Upper Paleolithic man's way of life and his philosophy of life, and will ultimately lead to a new vision of prehistory.



What was Upper Paleolithic man like?

. . . Was he threatened by cataclysms and ferocious

beasts? . . .



. . . violent? . . .

. . . or diabolical? . . .



(Cartoons after Hollan, "Visions de la Préhistoire,"
Science & Avenir.)

THE MEANING BEHIND THE RECORDING OF THE STAR FIGURES

Returning again to the basic concept that simplicity of approach was the avenue leading to discovery, the meaning and purpose behind the paintings became clear at once, simply but beautifully stated in the creations themselves. All that I had learned earlier about Paleolithic man began to fit into place.

Hunter's Paradise

"One should not think of prehistoric men -- and especially those of the Upper Paleolithic in Dordogne -- as unfortunate savages, badly dressed, undernourished, paralyzed with cold, and pursued by ferocious animals." ¹

The "Valley of the Caves" provided a favorable environment for early man, rich in natural shelters, drinking water and raw materials at hand for use. The climate was more severe than at present in Europe, but in compensation, game was super-abundant. Some animals such as the bison, horse, bear and lion, remained from the Wurm glacial period of the Middle Paleolithic. Reindeer, highly favored for its meat, skin, bone and antlers, became the prominent species of the period and penetrated even as far south as central Spain and Italy. ²

In the harmony that reigned between hunter and fauna, man was hardly threatened. If it so happened, as is likely, that he was endangered by a cave lion, he was perfectly capable of defending himself, and even of getting through such a trying moment. ³ Caverns that channeled

¹Information from display at le Thot, Thonac, France.

²Beals and Hoiyer, pp. 167 - 168.

³Translated from Henri de Saint-Blanquat, "Visions de la Préhistoire," Sciences & Avenir, No. Special (1971).

herds through the narrow valley, facilitating the hunt, also afforded shelters for men against the most courageous of beasts. ¹

Clothing provided additional protection against the elements. Tailored skin or fur garments were definitely known from the Magdalenian when the eye-needle appeared. Fire was also known to Paleolithic man. Sparking stones were discovered by early tool makers, since flint was one of the raw materials found in abundance. Knowledge of fire may also have facilitated the preservation of food. Heated stones could have been dropped into containers of skin holding the meat to cook it for storing. Collections of stones suitable for such purposes have been found in association with fire hearths. Perhaps a means of drying or freezing the meat was devised. ² Any of the means of preservation would have permitted a more stable existence.

In a hunter's paradise, there were several things of importance to Paleolithic men and women: (1) the earth with a limited topography, (2) "man" (as distinguishing men and women from "animals") and (3) the animals. The earth provided raw materials and shelter and was the terrain the animals traversed. The animals provided sustenance and certain materials as well. "Men" were inextricably linked with these complementary elements. To them, all three were integrated, part of a whole.

Looking outward, they saw additional proof of the integration and regularity of their world. As Marshack points out, Paleolithic man was a cognitive being, and in the sky he came to recognize certain time-factored occurrences.

¹Bock, p. 275.

²Beals and Hoijer, p. 211.



The returning stars not only became "clock and calendar" ¹ in his time-factored existence, but were also an integral part of his philosophy of life.

Philosophy of Life

To those at Lascaux, Font-de-Gaume, Rouffignac, etc. in that moment in time, the world was beneficent, orderly, dependable. Just as the stars rose, set and returned unfailingly, so the herds of reindeer returned each year. Well provided with food and shelter, the "cave dwellers" lacked nothing. Their belief in a "limitless cosmos" and in "inevitable success" ² undoubtedly affected their attitude toward their place in the total scheme of things. For as Bock states:

"The way a man acts, his feelings of guilt and achievement and his very personality are affected by the way he envisions his place within the universe." ³

Paleolithic individuals feared nothing; they were self-assured. Neither dominant nor subservient, they saw themselves existing in mutual harmony with nature, its beneficence and its forces.

There was no need to conceive of any deity. The regularity of nature was maintained through some "eternal homeostasis" ⁴ independent of man or of any "god." Joyfully in tune with nature, they did not question whence all came. They just knew this was -- and it was good. This balance had no end for them because it was all part of an eternal process.

¹Baker, pp. 25 - 26.

²Bock, p. 375.

³Bock quoting Dorothy Lee, p. 380. ⁴Ibid.

A Philosophy -- Not a Religion

The appearance of Paul Radin's book, Primitive Man as a Philosopher, helped to destroy the myth that "an abstract analysis of experience is a peculiarity of literate societies." The fact that every known culture carries out reflection on the "total scheme of things" suggests the probability of reflection in the culture of the "cave man" as well. ¹

Unfortunately too many prehistorians have felt that such speculation always necessitates a religion. Arguing about the purpose of the painted caves, they go beyond the concept of a philosophy, to postulate the existence of gods, rites and sorcerers in a cave "temple."

Mortillet, an unconventional prehistorian, writing in the 1880's, was ridiculed by others for his scepticism concerning religion in the Upper Paleolithic. "The nature of all religious belief," said Mortillet, "is to reach toward the supernatural, thus replacing pure observation (of phenomena). . ." To his mind, the distinguished artists of the Magdalenian epoch were simply recording the "true, known facts of nature." Thus the reindeer hunters had no religious conception. ²

This simple conclusion was not even accorded a second glance by such authorities as Abbé Breuil. Mortillet was a confirmed atheist, they declared. His own beliefs denied the possibility of religion to early cultures. Of course, the argument can be turned the other way. The Abbé's vocation certainly seems to have colored his interpretation of the archeological evidence. He notes that:

"during the colossal span of glacial and interglacial times, there appeared many human types -- different from each other and from us."

¹Clyde Kluckhohn, Mirror for Man, (New York, 1949), p. 29.

²de Saint-Blanquat, p. 8.

Yet he automatically assumes that all the resulting cultures must have practiced a religion.¹

Despite one's personal beliefs, the evidence itself can be objectively examined to determine if the caves were used as religious sanctuaries. It has been noted that no hearths or kitchen debris have been found inside the painted caves -- just ochre pencils, lamps and stone "palettes." Cro-Magnon man need not have lived in the inner reaches of the decorated caves to have frequented them regularly. By the same token, one cannot arbitrarily assume that these caves were regarded as temples without evidence.

"At Lascaux, as in all the caves containing paintings and engravings, we have as yet found no traces of religious ceremonies which the Paleolithic hunters could have celebrated there."²

However, holding to a long-accepted tenet of anthropology, prehistorians contend that "religion is inevitably a part of every culture."³ When they found no concrete evidence of ritual or magic, the authorities latched onto any unexplained phenomena as indicative of such practices. A figure of a woman becomes a moon goddess. . . bear skulls are worshipped. . . rock formations become altars. . . a "P" sign stands for pregnancy! * As Grand so aptly puts it: "The glamour of the sacred is still strong in our epoch which has almost lost sight of the sources of the supernatural."⁴

¹Breuil, p. 231.

²Raoul-Jean Moulin, Prehistoric Painting, trans. Anthony Rhodes, (New York, 1965), p. 25.

* At several times Marshack makes reference to a P-shaped sign (sometimes it appears reversed or upside-down) which supposedly is indicative of pregnancy of adjacent animals.

³Beals and Hoijer, p. 434.

⁴Grand, p. 8.

A philosophy of life would require none of the hypothetical rituals -- no sacrificial killings, no magic symbols or supplication to idols. With this simpler outlook, the art itself should be seen in a new light. It does not reflect the sense of superior power through killing, nor some subservient idolatry through ritualistic mumbo-jumbo; but rather, an aware intellect embracing the universe with confidence and a sense of immortality.

Art Revelatory of a Philosophy of Life

The esthetic achievements of a given society may be difficult to study. However, they are more revelatory of a culture than almost any other kind of human behavior. Ancient Egypt is most remembered for its pyramids and paintings; Ancient Greece for its epics, statues and architecture; Europe of the Middle Ages for its succession of cathedrals.¹ So the cave art of the Magdalenian epoch exemplified a philosophy of life that furthered group unity.

Grand indicated she too saw a planned purpose in the art when she said:

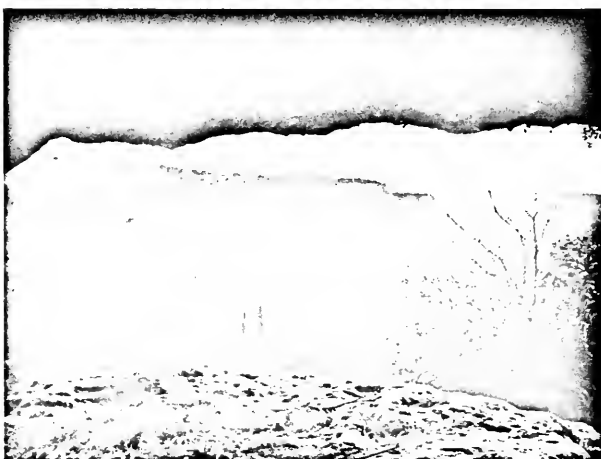
"surviving traces of a very efficient material organization make one aware that though the art work may have been produced by individuals, a sizeable group must have supported and planned practical steps preliminary to creation."²

The effectiveness of creative activities and the philosophy of life that gave them meaning, would certainly have been improved by the use of cooperative techniques which enabled group members to coordinate their efforts. None would become bored; all would be happily employed in observing,

¹Bock, p. 421.

²Grand, p. 37.

Viewing the Horizon



sketching, making tools, etc. This blending of art and the scientific observation of nature would not only keep the community active and alert through the long, cold winter days spent under shelter, but would also extend to balmy summer nights when they camped under the stars.

(Group Participation in the Art :)

All could have observed the night sky where the recurrence of stars was noted. Out in the open or seated under the overhang of a rock shelter, even a woman nursing a child could observe the heavens as well as a man fashioning tools. (The PICTURES on the facing page demonstrate how the horizon could be viewed from the shelter of a rock overhang.)

Discovering recognizable patterns in the stars was a joyous way to exercise one's powers of observation and imagination. Yet the preparatory steps prior to the actual painting or engraving of the figures, entailed a precise recording of the stars over long periods of time. Undoubtedly many participated in a recording of stars on mobiliary pieces where most animal figures or other shapes were born.

Community effort would also have extended to preparing lamps for illumination of the cave recesses. Appropriate rocks had to be shaped, then filled with a combustible substance (fat or wood), wicks made. There were pigments to be gathered and mixed, engraving tools, "paint brushes" and blowing tubes to be fabricated.

Youth may have participated in the recording of stars and in preliminary sketching, which would account for many crude renditions discovered among more skillfully rendered mobiliary pieces.

The countless variations of animal forms found within even one cave attest to the elation in depicting something new. Variations are also due to the many individual styles of representation. The final presentation of the natural observations in the artistic form was not the province of any one artist. There were many artists present and coming along who each may have employed an individual style. Creation would rest on a basis of traditional techniques and skills. But each artist would "utilize these skills to produce improved or novel forms. . ." ¹

Teaching Astronomy and the Philosophy -- Art as a Tool

Through the ages, men and women have developed their own philosophy, apart from religion, testifying to a belief in eternity or a "oneness with nature" as they saw the proof all about them. Such was the case of the Upper Paleolithic people who encouraged their children to observe and thereby know a truth.

Through participation, the young could be taught hunting and other skills, and through guided observation they could become versed in the lore of nature's creatures.

To teach the panorama of the sky and the philosophy of life it reflected, the cave artists created some of the most imaginative and beautiful "visual aids" that could be devised. It is evident the painters created with joy -- what a joy it must have been to learn from them! For the purpose behind the self-assured creativity was not only to chart the heavens, but also to provide a vivid and engaging teaching tool.

This unusual utilitarian art contradicts two tenets of anthropology. It is believed that astronomy must have come into being at the same time as agriculture. ² Marshack's

¹Bock, p. 422.

²C.A. Reicher, History of Astronomy, (1963), p. 9.

intensive research on notational use of mobiliary pieces -- and now, the star theory behind parietal art, indicate that the science of astronomy could have served the hunters of the Paleolithic. Cyclic phenomena were important to a people whose activities must always be synchronous with nature. Recording of the animal figures was literally and symbolically representative of the order of the universe.

This new evidence is significant in that it invalidates another tenet of anthropology: that art is not a tool. According to Bock:

"Works of art. . . promote social integration or cultural coherence . . . (but) they are not tools, because their action upon that world is negligible and incidental to their primary function." ¹

Paleolithic art as a teaching tool does have some relation to human needs other than the desire for esthetic expression. Along with the lunar notation, it is a step in the development of communication and writing which functions as a container (tool) for information. ²

There is no reason to assume that these instructive aims were esoteric. If the whole group in some way participated in the creation, then certainly the knowledge would be shared by the entire society. Caves were not some kind of sanctuary, closed to all but a small number of initiates. The very nature of their philosophy would indicate participation was open to all who could view the heavens.

Marshack remarks that the polish on the stone walls of some chambers in Lascaux indicate a frequent use of the passages. The absence of footprints cannot be used to

¹Bock, p. 229.

²Bock quoting A.L. Kroeber, p. 265.

disprove frequentation of the decorated caves, because they are extremely difficult to preserve. However, heel marks found at five spots near the rock walls in the cave of Tuc d'Audobert should be of interest. It has been suggested that they were made by a number of individuals * who were dancing. It is far more likely that the heel prints were made by a number of viewers who were seated on the floor for some period of time. If a group were seated on bear or reindeer skins with their legs extended, only the heels would make an impression. In learning what to look for in the sky, it would be logical to assume a reclining or seated posture. If one has strained his head and neck backward to try to view the actual night sky, one realizes that the best position to do so is sitting or lying on the back. (This is especially true in the caves of Rouffignac and Altamira where the distance between the floor and the painted ceilings is less than five or six feet.) Remaining for a time in such passages of little height would pose no problem for children seated to study the decorated panels.

To reiterate what was stated earlier, animal forms, whether painted or engraved, took on many new or alternate shapes. This suggests the encouragement to discover other configurations, and also the instructional intent of the art. The various symbols interspersed among the animals indicate that the hunter culture was based upon fact -- not upon superstition. Neither magical, nor ritualistic, they speak of time-factoring, direction and other observed phenomena in the heavens. Man had as yet developed no writing, but as Marshack repeatedly emphasizes, the Magdalenians were capable of creating and employing notational symbols, to make the learning experience more vivid.

*The heel marks are assumed to have been made by young males. But why couldn't the prints have been made by girls as well?

Most art work was done at some distance from the cave entrance. To enable creation and viewing, use was made of special cupel-shaped lamps. The above-mentioned proponents of the magic theories believe that early man had an instinctive dread and awe of the dark. The "sorcerers" and "initiates" who braved the deep corridors of caves, chose to paint there because "the obscure light suggested the religious." ¹

Such absurd comments clearly indicate that the authors were sadly unobservant on their visits to the caves. If the hunters had suffered such a dread of the dark, they probably would not have explored the caves in the first place. At Rouffignac, for example, the artists penetrated as far as six kilometres, which suggests a certain non-chalance in exploring the darkest recesses of the earth. Time was involved in the creation of art works, so they must have had no hesitancy in frequenting the caves.

As far as the illumination of the grottos (and the "religious" atmosphere), it should be noted that paintings, and especially engravings, cannot be seen in a bright light. It is the play of shadows and flickering light that give the animal friezes so much life. Project a beam like that of the little train at Rouffignac. * You will see nothing. In the oblique light of a carbon lamp however, the animals jump from the wall. This indirect lighting gives relief to even the slightest, the most delicate of engravings. ² Doesn't this delicacy and care in execution prove that the artists' intent was not to horrify the viewers, nor to make them subservient to huge animal gods? I am convinced that the artists experienced and passed on to the young some

¹Bataille, p. 56.

²Translated from Nougier, p. 80.

* A small train is the present-day visitor's means of transport in the immense Cave of 100 Mammoths, Rouffignac.

feeling akin to the delight that some of the present-day guides find in helping the visitors to discover the animal figures . . . in lovingly tracing each line with the light . . . head . . . back . . . legs, until the silhouette is complete . . . in relishing the skillful use of the cave architecture.

Another facet of the dynamics of light is movement. The Paleolithic artists knew well how to play the light to make their creations appear and disappear. If one utilizes modern electric lights, which in no way approximate the ancient lamplight, the impression of movement is lost. If the visitor possesses a more authentic means of illumination, then he will have the same experience as the explorer Nougier when he made his way through the corridors of Rouffignac:

"When you enter the (main corridor) you will light the first two or three figures. Slowly you will illuminate a new one, while the last disappears . . . You will try in vain to light the whole . . . You may project your flickering light upon one 'actor' or another, but the shadows will always hide others from you. (The animals) become lost in the shadows and continue on eternally." ¹

"It seems you can hear the far away galleries resounding with the slow and heavy tread of their methodical passage." ²

Thus, in the darkness of their ancient "planetariums," the teacher-artists simulated the passing of the constellations, part of their observations of nature that illustrated so clearly the concept of passage and return.

¹Translated from Nougier, p. 138.

²Ibid., p. 136.

CAPSULIZED VERSION OF THE PHILOSOPHY OF PASSAGE & RETURN
THE SHAFT PAINTING AT LASCAUX

The shaft painting at Lascaux appears as an ideal capsulized version of the whole picture of passage and return which was exemplified in the "parade" of animals. Located at the rear of the small chamber called the "apse," the shaft is a kind of well extending to a depth of some twenty-five feet. The famous shaft composition is not located at the bottom of this pit, but just above a ledge which occurs part-way down and is large enough to support several individuals. Also, "in an archeological layer containing the bones of reindeer and chipped flint tools, there was found the small carbonized fragment of a piece of cord. The position of the cord in the cave has led archeologists to believe that it had been used to descend into the 'well' containing the painting of the man, bison and rhino." ¹ (See PICTURE on page 10.) Interpretations of this painting are many and varied:

Professor Bordes believes a member of the bird totem was killed by a bison during the hunt; a member of the rhino totem avenged his death by representing the scene in a painting. ²

Another author, Rebecca Marcus, suggests that the man represents a sorcerer who was killed while weaving a spell over the bison. His bird-head indicates a mask, and the bird on a stick signifies a funeral pole, a clan sign or a decoy used in hunting. ³

The bird-headed man bears little resemblance to a hunter, says Madame Laming-Emperaire. Therefore he could not have furthered success in the hunt. In her opinion,

¹Marshack, p. 369.

²Pfeiffer, p. 90.

³Rebecca Marcus, Prehistoric Cave Paintings, (1968), p. 41.

"it seems more likely he represents a mythical being, connected in some way with the history of the ancestors of the group." ¹

True to his comprehensive theory, Leroi-Gourhan firmly declares that the bird on a stick, the hooked stick, the barbed "spear" and the six dots are "masculine" signs, while the ovals under the bison are "feminine." However, in his commentary, Marshack notes that the hooked stick does not resemble any spear thrower so far excavated. Furthermore, in his estimation, there is nothing in the painting to indicate a sexual interpretation such as spear= male, wound = female. ²

Of course Marshack himself cannot resist venturing a personal interpretation of the shaft scene. The complexity and number of signs and engravings in the vault above the shaft indicate to him a symbolic and storied use. The bird on a stick is "probably a sign and symbol, not only of the season, but more generally of an equation that recognized flight, disappearance and return." How close Marshack comes to the very concepts espoused in the star theory!! But he veers off the track when he asks himself the following questions:

"Was the bird on a stick, then, the image of the shamanistic spirit, or did the bird carry or lead the spirit of the shaman on a journey? . . . was this the image of a journey to a far land -- say to the land of spirits or the land of death -- which required a journey or return in bird shape or with bird help?" ³

¹Marshack (quoting Mme Laming-Emperaire), p. 278.

²Ibid., pp. 278 - 279.

³Ibid., pp. 279 - 280.

In light of the research accomplished on the star theory, a truer meaning is revealed. In the painting, the star figures described earlier, appear to me to demonstrate a three-fold analogy. First, this particular configuration is seen in winter, (see p. 14) a time of brief dying before the return of spring. Secondly, the star figures themselves appear each night, each season, to set or "die" -- but they faithfully return again. Thirdly, if this has special meaning for man, then for him there is no permanent death. He is rather a part of the eternal process of revival and return; he and the universe are one.

Others conjectured that the meaning of the painting entailed the death of a particular man and a mortally wounded bison. However, as noted, all the elements ascribed to the death story (spear, bird totem, entrails) are instructional star lines. It is generally assumed that the painting represents a real man, "but he is drawn in such a rigid and angular fashion, that he is unlike any of the human depictions in cave art, however skimpy and indeterminate they may be." ¹ The "man" depicted is merely one of several star figures pictured. He is not dead, nor is he crudely drawn as a result of some taboo or self-consciousness in representing the human form. It is how the star figure appears in a group of winter constellations.

The unique placement and the evidence of the rope fragment would indicate, however, that the painting not only taught the more simple lesson of what appears in the winter night sky, but here is intended to epitomize the lesson manifested in all the wall art at Lascaux. It would thus answer the questions the young might have of "life and death," not by ritual, but within the framework of learning the continuing story of the stars. The simplicity of descending into the shaft by the rope, as one is

¹Powell, p. 62.

lowered into the earth or a well for burial, viewing this climactic evidence of an eternal truth, and then triumphantly returning to the surface again, is in tune with the picture of ingenuity and joyful assurance that emerges from a study of the creators of the star paintings at Lascaux.

Such a theory of Paleolithic life as just espoused, does not rest on the lone evidence of the shaft painting at Lascaux. As indicated in the beginning, there was much unraveling of the mystery still to be done to substantiate the fact that the other paintings were indeed star figures -- and their purpose instructive. This chapter of the star theory follows in a second paper.



NOUS VOICI,
LES HOMOSAPIENS

(This cartoon and the one on page 39 after Hollan, "Visions de la Prehistoire," Sciences & Avenir.)

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